

Amendments to the Claims

Please cancel Claims 1-47 and 59-67. Please amend Claims 48 and 58. Please add Claims 68-73. The Claim Listing below will replace all prior versions of the claims in the application:

Claim Listing

- 1-47. (Canceled)
48. (Currently Amended) A method for operating a rotary motion machine, comprising:
- a) atomizing and injecting a liquid fuel into and substantially evenly along a length of a chamber defined by a radially expandable piston, the fuel combustion creating exhaust and causing the piston to radially expand;
 - b) replacing substantially all of the exhaust with pre-compressed fluid as the piston is caused to contract; and
 - c) repeating steps (a) and (b).
49. (Original) The method of Claim 48, wherein the step of replacing substantially all of the exhaust with pre-compressed fluid is carried out at least while the piston is caused to contract.
50. (Original) The method of Claim 48, wherein the piston is caused to contract by a relatively incompressible fluid propelled by a second radially expandable piston expanding due to fuel combustion therein.
51. (Original) The method of Claim 50, further comprising rotating a rotor with the relatively incompressible fluid.

52. (Original) The method of Claim 51, further comprising generating electricity by motion of at least one magnet associated with the rotor relative to a cooperatively arranged coil.
53. (Original) The method of Claim 48, wherein at least one fuel injector that selectively injects liquid fuel into the chamber, a fluid intake valve that allows pre-compressed fluid into the chamber, and at least one outlet valve that selectively allows the exhaust to exit the chamber are closed during the fuel combustion.
54. (Original) The method of Claim 53, further comprising opening the fluid intake valve and the outlet valve about when the piston has expanded to about its maximum dimension to allow the exhaust to leave the chamber as the piston is caused to contract.
55. (Original) The method of Claim 54, further comprising closing the outlet valve about when substantially all of the exhaust has been replaced by the compressed fluid.
56. (Original) The method of Claim 55, wherein substantially all of the exhaust has been replaced by the pre-compressed fluid about when the piston has contracted to about one-half its maximum diameter.
57. (Original) The method of Claim 56, further comprising closing the fluid intake valve and the outlet valve about when the piston is contracted to about one-half its maximum diameter, the continued contraction of the piston further compressing the pre-compressed fluid.
58. (Currently Amended) The method of Claim 56, wherein the ~~fluid~~ fuel injector injects fuel into the chamber about when the piston is contracted to its minimum diameter to atomize and inject a liquid fuel into and along a length of the chamber.
- 59-67. (Canceled)

68. (New) The method of Claim 48 wherein atomizing and injecting a liquid fuel into and substantially evenly along a length of a chamber defined by a radially expandable piston comprises:
- distributing fuel in a vessel spanning substantially the axial length of each radial piston and substantially coaxially co-located within each radial piston; and
 - releasing a quantity of fuel from the vessel at discrete locations evenly spaced around both the perimeter and axis of the vessel into the chamber defined by the radially expandable piston.
69. (New) The method of Claim 68 wherein the fuel within the vessel is pressurized.
70. (New) The method of Claim 68 wherein the vessel comprises two coaxially aligned cylindrical tubes, the first cylindrical tube inside the second cylindrical tube, each cylindrical tube having a plurality of holes around its circumference and along its axis, the first cylindrical tube containing fuel within its cavity; and
- wherein releasing a quantity of fuel from the vessel at discrete locations evenly spaced around both the perimeter and axis of the vessel into the chamber defined by the radially expandable piston comprises rotating at least one of the cylindrical tubes with respect to the other tube such that the plurality of holes of the first and second cylindrical tubes align, allowing fuel to escape from the interior of the first cylindrical tube to the chamber defined by the radially expandable piston.
71. (New) The method of Claim 69 wherein the fuel within the first cylindrical tube is pressurized.
72. (New) The method of Claim 68 wherein the vessel comprises two concentric tubes movable with respect to one another, each tube having a plurality of apertures that cooperate to atomize at least a portion of fuel disposed within the tubes, movement of one of the tubes preventing the fuel from being atomized; and

wherein releasing a quantity of fuel from the vessel at discrete locations evenly spaced around both the perimeter and axis of the vessel into the chamber defined by the radially expandable piston comprises rotating at least one of the concentric tubes with respect to the other tube such that the plurality of holes cooperate to atomize at least a portion of fuel disposed within the tubes in the chamber defined by the radially expandable piston.

73. (New) The method of Claim 72 wherein the fuel within the two concentric tubes is pressurized.